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## **CHAPTER 7**

# **INDUSTRY ANALYSTS AND THE LABOUR OF COMPARISON**

*Neil Pollock*

## **INTRODUCTION**

This chapter considers how incommensurable artefacts and actors are brought together, the relationships between them standardized, so that they can be compared in the same space. This issue – described here as the *labour of comparison* – is beginning to attract attention from scholars in Science and Technology Studies (STS), Economic Sociology, Organization Studies and beyond. Some have gone as far as to conceptualize the economy in a way that comparison is central to its organization (Callon et al., 2002). Within this view, what has been termed as an 'economy of qualities' (Callon et al., 2002), the experts that measure and classify the properties of technologies and products are key. Lacking the devices to establish equivalence how can different objects be brought together and compared?

Without the practices to produce differences how can similar commodities be sorted out? The labour of comparison is not without politics or complexities (Barry, 2006; Mol, 2002; Porter, 1995) particularly concerning the status and detachment of experts who perform this work, the devices used in their craft, the identification of the properties to be measured, and the calculations and actions that stem from these practices (Callon and Muniesa, 2005). The labour of comparison and its related politics and complexities, should be of wider interest to scholars interested in objects and the economy, technologies and standardization. This chapter investigates the expertise and tools of a body of professionals whose work is centrally concerned with comparison – this is those specialized forms of consultants known as ‘industry analysts’. I discuss one particular set of industry analysts (the Gartner Group) and their attempt to analyse and compare software vendors through the production of the ‘Magic Quadrant’.

### **The Magic in the Magic Quadrant**

Gartner are *primus inter pares* amongst industry analysts and have been particularly successful in mobilizing belief and expectations amongst both supplier and user communities.<sup>1</sup> In particular, they produce a decision-making tool known as the Magic Quadrant (MQ). This attempts to compare and rank software vendors according to a number of predefined measures. It comes in the form of a box with an X and Y-axis (labelled as ‘completeness of vision’ and ‘ability to execute’) dimensioning a two-by-two matrix, with four segments into which one can see placed the

names of several vendors. Vendors are not randomly placed; each of the segments are individually labelled (niche player, challenger, visionary and leader). The position of a vendor in a particular segment signifies something regarding its current and future performance as well as its behaviour within the particular markets it is targeting (Burton and Aston, 2004). Decision makers are said to draw on and be influenced by these tools when making procurement choices (it has been argued that the MQ is the most referenced research tools in the IT sector [Violino and Levin, 1997]). Some argue that a high ranking on a MQ guarantees a vendor more attention than its rivals (Hind, 2004), with others suggesting that it even has the power to ‘make or break’ a technology (Violino and Levin, 1997), the result being that software vendors are keen to influence the shaping of these objects.

This device however turns out to be potentially difficult to study (and its influence therefore hard to assess). This is because it is a ‘dividing object’: as well as enjoying extensive diffusion the MQ has been denounced in the practitioner press as devoid of ‘intrinsic value’ and as a mere ‘marketing tool’ (Howard, 2004). It is said to be overly ‘subjective’ in the way it is compiled, and despite claims by Gartner that they are ‘objective’ with no particular ‘axe to grind’, the tool is widely seen to be ‘partial’ and embody ‘bias’ (Cant, 2002). Intriguingly, these contrasting accounts are not always the opinions of different communities but of the *same* groups. The people who use them are also seemingly among their biggest critics. How are we to

make sense of this form of market analysis that is seen as problematic but still widely used?; which is controversial but also said to be highly effective in comparing the performance of vendors?

There are three possible ways of analysing the tool, only one of which helps in our task. A first strategy, perhaps the one favoured by critical social scientists, would be to *debunk* the tool. It is after all a version of the classic two-by-two matrix much beloved by European and American Business Schools. In this respect it would be relatively easy to reveal its limitations and imperfections (not least that it ‘flattens the world’ through hiding its complexity). However, I do not take this particular line here. A second strategy might be to treat the tool as a ‘convention’. This would be to explain its success through the fact it enjoys widespread take-up and use. Indeed, social scientists have used these arguments to good effect in the domain of Science and Technology Policy, for instance, where Arie Rip (2006) has described the extension of similar kinds of objects in these terms. However, whilst agreeing that the MQ *is* a convention, I cannot accept the implication that all conventions are completely ‘arbitrary’ and without ‘content’, which is the reading one finds in Rip’s article. An alternative strategy – the one pursued here – would be to open up this ‘black box’ to study the production of the tool to see how vendor comparisons emerge from this contested socio-technical arrangement. In doing this I set in train a specific line of inquiry. I show how the MQ is ‘performative’. That is, it does not merely describe a state of affairs that already exists in the

marketplace; but nor does it simply offer a new means of representing and positioning vendors; rather it is also interacting with and modifying its object of study. Indeed the principal contention pursued here is that the MQ has become ‘successful’ because it is (re)shaping the technological field.

### **WHERE IS THE SOCIOLOGY OF MARKET ANALYSIS TOOLS?**

Whilst tools like the MQ have been a feature of business settings for several decades, they still attract relatively little attention from scholars interested in the social analysis of technology. There is still nowhere near an adequate sociological language to describe their success or failure. The few studies discussing them seemingly only do so to demonstrate their flaws (see Lissack and Richardson [2003] who go as far as to suggest that such tools are ‘unethical’). Whatever the reason for this, it is clear that there are too few fine grained accounts of the genesis and influence of market analysis tools. There are exceptions, of course, as exemplified by recent work in the domain of Business History (see particularly Ghemawhat [2002] and his lengthy discussion of the ‘Boston Matrix’) and Strategy (see Jarzabkowski and Wilson’s [2006] description of strategy tools in action). My own field of STS appears, at first glance, well equipped to understand their nature and influence, given its longstanding interest in the models produced by scientists and engineers (see Morgan and Morrison, 1999). Yet the small amount of research conducted so far on industry analysts does not adequately reflect their complexity, but overwhelmingly tends to focus on

the intrinsically flawed, simplistic assumptions embedded in their assessments, and the often contested nature of analysts' research (see Bloomfield and Vurdubakis, 2002). As a result, the work of such organizations is not adequately explained.

### **The Performativity of Market Analysis**

These portrayals of intermediary groups like industry analysts and IT research firms current within much of the social sciences are unsatisfactory, particularly when it seems that industry analysts produce their assessments through systematic, albeit complicated, forms of research and that their tools *do* exert powerful albeit complex forms of influence. The approach in this chapter is influenced by scholars sensitive to the role that theories play in constituting economic markets. Recent work from Economic Sociology (Callon, 2007) and the Sociology of Finance (MacKenzie, 2003), for instance, argues that economic theories and financial tools are 'performative'; that is, they not only describe but can help produce the settings in which they are applied. Through their application, theories and their related tools change how people think about markets and go on to enact the 'framing' processes that serve to allow their operation. This is an important insight, which, if it can be used to illuminate the study of economic and financial transactions in general, can also aid our understanding of the workings of industry analysts and their role in the labour of comparison.

The actual notion of ‘performativity’ stems from the work of the linguistic philosopher J.L. Austin (1962) who wrote that a statement was performative when it did more than just describe a reality but was actively engaged in the constitution of that reality (c.f., Barnes, 1983). This begs the question as to whether any kind of assessment is possible. Could industry analysts make whatever judgement they choose? In Austin’s original discussion, he was careful to avoid discussing the ‘veracity’ of performatives. What was important was not whether statements were true or false but how, in actually making them, the speaker was ‘setting something in motion’ (Callon, 2007, p. 320). Callon has built on this argument in two ways: through replacing the concept of truth and falsity with ‘success’ and ‘failure’; and setting out a partial framework to study whether performatives have ‘successfully’ brought about that which they previously set in motion.

This first point is relatively straightforward, especially for those familiar with the pragmatism of Actor Network Theory, but the second less so. What Callon intends is that performatives do not exist in isolation; they have meaning and effect in the ‘world’ they create for themselves. Callon describes theories and their world as a *socio-technical agencement*.<sup>2</sup> In what follows, I analyse the MQ as a socio-technical agencement to show how it implies and gradually enacts a new world. This includes how Gartner set out an alternative way to describe vendors as well as a research process they construct to enable their comparison and ranking. Using Callon’s argument,



it can be said that the MQ is successful (i.e., performative) when it is able to bring about the world that it points to (i.e., actors come to think of others and themselves according to its terms). I conclude by showing how the MQ becomes part of the 'equipment' (MacKenzie, 2009) allowing people to act in the IT market.

### **A NEW COMPARATIVE MACHINERY?**

Study of the MQ was approached in the first instance using conventional forms of analysis. The tool was thus conceived initially as a 'convention' that was mostly 'arbitrary', that was successful through its widespread diffusion and take-up, all of which was bolstered by Gartner's standing in the IT marketplace. Thus, the author of the chapter was genuinely surprised to find himself sitting listening to a talk that pointed to a rather different story. To give some indication of this I present extracts from a presentation given by one Gartner analyst to a large audience of IT practitioners. In the presentation he is talking about the history of decision making within information systems procurement. He begins by discussing how previously technology adopters had assessed systems prior to purchase:

...we put together [in the 1990s] an outline of how you should evaluate administrative applications... [A]nd what we said was that in a stable environment you would look at '*functionality*'... That was pretty much what we were looking at. Why? Well a mainframe is a mainframe so technology wasn't that different from one to another, it was basically a vendor's box that you were buying but it was built

around a common architecture. When you looked in terms of *cost*, that was the driving factor for us; And *service* and *support*'. We really didn't think much about vision of the company or their ability to execute we just bought what they had to offer... So, we had some need but it was kind of focusing on functionality and cost. What we said in '97 was change. You need to look at *functionality* but most vendor packages are mature enough to where there is at least common functionality, so it is a matter of *goodness of fit* that you are looking at... (emphasis added).

Here the traditional means by which people assess information systems is problematized. His critique focuses on the assessment criteria people currently use ('functionality', 'cost', 'service', etc.) which he suggests are no longer effective in sorting vendors out. How can you select between vendors using criteria of 'technology' when systems are no longer significantly 'different from one another'? How effective is 'functionality' when vendors increasingly offer 'common functionality'? He goes on to suggest:

And we started seeing that trend in the early 80s...that said we had ageing of systems, people were using these systems...whether they were proprietary or home-grown for 15, 20, 25 years... And, the point is that you had to look at buying software as being a partnership with a vendor, and that's a long-term relationship. It's not something short term.

The analyst also thinks it has now become necessary to replace current assessment measures, as adopters tend to use the same solution for longer and as a result have ‘partnerships’ with suppliers. The implications of this being that organizational consumers need to assess not only systems but also increasingly vendors themselves.

And so, the *vision of the company* – do they understand the business of [specific sector]? Do they know where you were going? – and the *ability to execute*, those are still crucial. We still say it is about half of what your criteria should be. Now, if I am a...Chief Financial Officer...I am probably going to look at *functionality* as being crucial. That’s fine. But somebody better look out for the good of the [institution] as a whole. Because your institutional perspective is the one that we’re responsible to look out for in IT (emphasis added).

The analyst is suggesting a shift in decision making from the evaluation of functional and local concerns to more ‘strategic’ ones. In order to do this, he mentions how a consumer might apply Gartner’s own evaluation criteria from the MQ, which they term as ‘ability to execute’ and ‘completeness of vision’, when evaluating vendors. In other words, Gartner are proposing to re-frame decision making through bringing into being new kinds of actors. In so doing, the tool prioritizes comparative forms of assessment over local accuracy. That is, they give form to ‘ordinal’ characteristics as opposed to those that establish commensurability with local sites.<sup>3</sup> The new frame renders vendors commensurable with each other (Burton and Aston, 2004).

Thus, it could be said that MQs generate comparisons not existing elsewhere. Through bringing vendors together in the same space, and through producing and standardizing relationships between them (Callon and Muniesa, 2005), the MQ might therefore be described as a *technology of comparison* as opposed to one of accuracy.

In summary, I argue that the MQ is transformative and that in producing the tool Gartner are also re-constituting the technical field from one where people were concerned with local and functional issues to more comparative ones. However, the world that Gartner are attempting to set out also requires a research process – a method by which information about vendors can be collected. This turns out to be one of the most controversial aspects of the tool and it is to this that the chapter now turns.

## **CONSTRUCTING A RESEARCH PROCESS**

Gartner do not entirely calculate MQs within the boundaries of their own organization. They are partially the product of interactions analysts have with the vendors themselves and a geographically dispersed network of vendor customers. Whilst conducting fieldwork a number of vendors were interviewed that had been subject to Gartner's assessment, and I also talked to vendor customers as well as observing Gartner's interactions with these people.

### **Vendors Are On the Move**

Several vendors were interviewed about their relationship with Gartner. SoleSys (a pseudonym) is a US based software package vendor who had been consistently well placed on the MQ. This year they were again identified as a 'Leader', and they made every effort to publicise this. After contacting the Marketing Director of SoleSys to arrange an interview, initially about a different issue, for instance, he sent me a recently published MQ to show how they had maintained their position. When I met with him, I took the opportunity to ask him about their continuously positive ranking. I broached the subject rather simply enquiring whether they 'marketed themselves to Gartner'. He responded:

It takes a lot of work, actually [laughing]. And, you don't really *market* yourself to Gartner as they are very focused on the communications they have with corporations. So what they do, if you want to be considered for coverage on the Magic Quadrant, they send out a questionnaire in advance of the Quadrant. And it ends up being like a 50 page response that is required from a vendor, from, you know, the high level product strategy down to the feature and functionality and architecture. So we make an investment to respond to that as thoroughly as possible. And, that's how, where our placement in the Quadrant comes from (author interview with Marketing Director, SoleSys).

Whilst polite enough to laugh at the question he did, however, chastise me for the suggestion that they 'marketed themselves' to Gartner. This exchange was instructive. My reading of this was that to be well positioned

was far from a simple marketing exercise. The respondent from SoleSys was replying to a tacit derogatory definition of marketing as ‘selling’ something irrespective of its quality. Instead, he made the point that responding to Gartner required much internal ‘investment’ and ‘work’. He went on to insist that there needed to be substance behind the claim (even though his description did look like straightforward self-promotion and positioning). I thus imagine a dual process whereby a vendor has to first disentangle itself from the existing (functional) ways it currently conceives of itself and then to reframe these according to more strategic measures. This suggests that the subjects of Gartner’s research were ‘on the move’ so to speak; the vendors were remaking themselves in terms of the new world Gartner was attempting to set out.<sup>4</sup>

### **Community Knowledge**

The second group from which MQs are derived are vendor customers. Gartner’s relationship with this group is particularly interesting. I observed how one particular analyst had built up and was managing a large network of people with whom he interacted on a regular basis. These people would continuously feed back ‘judgements’ to him on the particular vendors they were working with. Based on fieldwork I observed how a vendor ranking is enacted within these interactions – which constitute what might be thought of as a ‘calculative network’ (Callon and Muniesa, 2005). This calculative network and how it works is described more fully below, but for now I simply sketch some of its features. It is ‘selective’ in that analysts keep

themselves close to certain people and exclude others. It is ‘tactical’ in that people recognize the importance of these interactions and may use them to further goals. Moreover, finally, interactions in the network are often highly ‘informal’ – being typically based on telephone calls or quick chats conferences, etc. These users who continuously feedback information to the analysts might be called ‘satellites’ and Gartner who, in turn, translate these judgements into positions on the MQ, as a ‘centre of calculation’ (Latour, 1987). Further, the information within these networks might be characterized as ‘community knowledge’ to emphasize both its informal and distributed status. When pressed, for instance, Gartner will often deny that it is in fact *them* acting but that they are merely representing, within the tool, knowledge originated by others elsewhere.

### **THE OBJECTIFICATION OF COMMUNITY KNOWLEDGE**

What I am arguing is that Gartner is shaping the world so that ‘community knowledge’ is no longer a highly particular and local form of knowledge but one that can travel the world. This is to say that this informal knowledge can be commodified. However, these kind of ‘judgements are not easily objectified (as Porter [1995] argues, judgements do not fit straightforwardly into quantification). For instance, during fieldwork it was noted how Gartner often struggled to account for the provenance of community knowledge and how there was a certain amount of ambiguity surrounding the methodological status of the tool. For instance, in its early life I found the more ‘quantitative’ aspects of the MQ were highlighted; and only some

years later was it described as resulting from ‘qualitative research’. Today it is typically described as having a mix of both these aspects:

Gartner analysts use a combination of objective and subjective criteria to evaluate individual vendors... (Soejarto and Karamouzis, 2005, p. 5).

When Gartner say the tool includes ‘subjective criteria’, I take it to mean it is shaped through analyst interactions with clients. Indeed one might think that incorporating this kind of knowledge increases the tool’s credibility, for instance giving weight to the argument that Gartner are ‘close to the action’ so to speak. It is this community knowledge that Gartner are attempting to objectify, to bring into the calculation these customer judgements (seen as important but having until now remained outside the frame). Yet, this is also seen as one of the weaknesses of the tool (leading to accusations of ‘partiality’ and ‘bias’).

### **Partiality and Bias**

One issue appears to be the obfuscation that exists around these calculative networks and community knowledge. The fact that Gartner refuse to make the names of their sources public, for instance, is a cause of much concern. There is also little information on how specific customers are chosen as well as with the weight given to their views. During fieldwork, for instance, I spoke to one IT manager who was critical of how, despite the claim that Gartner advertise and consult widely when conducting their research, they had never solicited *his* views. He described how he thought the particular



Gartner analyst responsible for his sector had not been completely even handed when assessing SoftCo's solutions:

...he has been very negative to [Campus, the SoftCo module discussed earlier]. He has never called. He has never visited our site. [SoftCo] wants me to be on a conference call with him, but I really don't want that. He just knows everything; he never listens... There are just some people you know that, I took an immediate dislike to him and that is because of that arrogance. But he does know a lot and Gartner is important... He is not against [SoftCo] he just thinks that they are a bit player and they are not serious. That is what I gather (author interview).

Despite the fact he is well informed about SoftCo, and that he is someone who might have been expected to be contacted, this IT manager is not part of Gartner's calculative network. It seems that in the labour of comparison Gartner actively differentiate between customers when gathering information: that access to calculative networks is 'unevenly distributed' (Callon and Muniesa, 2005).

## **EXTENDING THE WORLD OF THE MAGIC QUADRANT INTO THE MARKET**

The chapter has thus far focused on the process by which Gartner gathers information for its MQs. In this section, I consider how the tool is extending into the market and with how it begins to 'interact' with the very things it is attempting to describe. I do so through discussing how Gartner's

assessments were taken-up by one particular vendor customer and then with how they become part of the ‘equipment’ that condition his activities (such that he becomes involved in a complex set of strategic manoeuvres).<sup>5</sup>

### **The Magic Quadrant at UserOrg**

‘Sergio’ is an IT Manager at a user organization (described as ‘UserOrg’). Sent the latest version of the MQ by an executive from a large software vendor (described as ‘SoftCo’) keen to report some good news that their rating was finally improving, Sergio, in turn, circulated it among his colleagues, careful to add his own interpretation of what *he* thought the MQ was saying:

See attached an e-mail from [SoftCo] with some positive news that Gartner have improved their rating of [SoftCo’s] products within the [specific] sector. The diagrams are worth looking at because they show that [SoftCo] have improved since 2004 but also that they have a long way to go before they overtake their competitors (email from Sergio to colleagues).

Although the vendor was keen to highlight a change in position, Sergio qualified the improvement through highlighting the ordinal nature of the tool and the fact that even though SoftCo had moved position, so too had all the others, and thus SoftCo still lagged behind its rivals. In a further series of emails, Sergio discussed with a Senior Executive at the vendor what *he* thought were the specific problems that Gartner found with SoftCo. He

received a reply to his email in which the vendor appeared to accept the assessment:

Yes, we need to move 'North' in the execution axis and 'East' in the vision section. We really need to push across the line into the 'Leadership' Quadrant. Implementation (speed, cost - same thing, to some extent) remains a challenge (email from SoftCo to Sergio).

Here, the properties of this vendor appeared to be settled and adjusted to those of the MQ. The various actors present seemed to accept the alternative comparative machinery set out and agree that Gartner had 'correctly' identified that SoftCo had a poor 'ability to execute'. However, this was not the end of the matter. What then developed was a fascinating and quite unexpected series of events. Rather than simply accepting the assessment, Sergio discussed with the vendor how he might be able to *improve* SoftCo's position:

...I think that the [CRM] final result will help move things much further. If we can then exploit BW [Business Warehouse] to include financial and other information then we should help to move the [SoftCo] position further in the right direction. I think that it is important for Gartner to realize that [SoftCo] are building up momentum as they move across the MQ (email from Sergio to SoftCo).

The 'CRM' project was a customer relationship management system being built by SoftCo and implemented within Sergio's organization. It was seen as a significant flagship venture since it brought together and integrated

several previously unrelated enterprise resource planning (ERP) modules. What Sergio was suggesting was that, once the CRM project was successfully implemented, news of this could be fed back to Gartner to provide evidence to improve SoftCo's standing.

### **UserOrg Becomes a 'Test Case'**

At this stage of the fieldwork I was intrigued with how this might happen; how could the CRM project be linked to the MQ in this way? I watched with interest as the IT manager attempted to court Gartner's attention. Having recently become a Gartner client, Sergio had access to their analysts and his main point of contact was someone whom we describe as 'Bob'. I observed as Sergio deepened this relationship with Bob: they began to conduct regular telephone conversations; to participate in lengthy email exchanges (which I had access to); and Sergio would engineer meetings with Bob in various places around the world (some of which I was able to observe). Sergio discussed this blossoming relationship with one of his colleagues:

He [Bob] is coming to [UserOrg] in early November to a...conference. I tend to speak to him approximately every two weeks. He is really interested in seeing what we have done in UserOrg. He is also watching [KentOrg] and [PurseOrg] at the moment. I think that he will also watch [WestOrg] in the UK as well to see whether [SoftCo] can hit implementation dates. I am sure that we can generate some really

good publicity from our CRM project (email from Sergio to colleague).

According to the email, Gartner were watching a number of sites around the world from which it would gather evidence about SoftCo's ability to execute. Moreover, UserOrg had become part of this calculative network. This raised a number of issues, not least, as to why Sergio might go to such effort to improve SoftCo's rating.

### **Calculating Actors**

During the same period, Sergio was also in regular contact with a number of SoftCo executives, continuously reminding them of the influence Gartner was developing among decision makers. Sergio outlines the specific interest Gartner had taken in his project, as well as the work he was doing to encourage this attention:

Gartner ([Bob] especially) are following every twist with great interest. He wants to spend much time with me in [the US] before and during [a forth-coming conference] (he's invited me on to a User Panel on the Sunday [sector specific] Symposium to discuss the question 'What message would I like to give to my ERP vendor?'!!). He also intends to visit [UserOrg] during his trip to [UK conference] (being held in the [UserOrg] area at the beginning of November). I am giving him very positive messages – he is very interested in the timescales of the project – possibly, because he is looking for evidence that [SoftCo] can implement good/solid implementations in a short

time-scale. He is looking for similar evidence from [KentOrg] and some other critical US implementations (email from Sergio to SoftCo). Sergio outlined to the vendor how their position on the MQ was now becoming directly linked to their performance at UserOrg. What Sergio hoped to achieve was to exert pressure on SoftCo to continue to devote further resources to his CRM project (the development had started well but had been floundering in recent months). In turn, SoftCo needed to improve (not worsen) their ranking. Sergio thus anticipated that Gartner's interest would have a positive effect on the vendor. In another email to a colleague, Sergio described the success this strategy appeared to be having:

Things are getting ever more interesting for me and the [SoftCo] relationship. They are really moving in to a 'partnership' role – throwing in highly competent resources to ensure that we go live on 10th October. Though I guess it helps that they realize that [a senior Gartner analyst] has told them that Gartner are watching [SoftCo's] ability to implement at each of three [organizations] in the world ([UserOrg], [KentOrg] and [PurseOrg]) and that their results will materially affect whether [SoftCo] move from the lower left quadrant to the top-right! (email from Sergio to colleague).

To summarize this section, the MQ had two principal effects. Firstly, it framed the setting so that the means by which vendor rankings can be improved has been defined. No longer an abstract or difficult to measure notion, vendor performance was translated into the most tangible of things: to repeat Sergio's words, the implementation of its systems in the three

organizations ‘will materially affect whether SoftCo move from the lower left quadrant to the top-right’. Secondly, the fact it tied in vendor rankings with the success of these projects opened up the possibility of new kinds of action. In particular, the MQ equipped actors to calculate and *act* in different ways (Miller, 2001).

### **HOW GARTNER DEFENDS ITS ASSESSMENTS**

I have argued that, in compiling these tools, Gartner hand the discretion over to others (i.e., this ability to comment on the capacities of vendors): they were keen to publically emphasize it was not Gartner but the wider ‘user community’ that was providing judgements. In effect, these others had the power to say whether a vendor could execute or had vision. I describe this process through analysing how one satellite reported back to Gartner (and in so doing how he forced Gartner to defend its position). The particular episode took place in the US where Gartner was organizing a Symposium to coincide with a major IT conference. The IT manager from UserOrg, Sergio, travels to the conference, one of his aims being to update Gartner on progress of his CRM project. At the conference, the author of the chapter was sitting conducting an informal interview with Sergio when Bob from Gartner approached. Sergio straightaway began to force Bob to explain and defend his assessment of SoftCo, which he appeared able to do – *in a robust manner*. This confrontation continued and eventually Bob has to be

less guarded telling Sergio what he thought were the real problems with SoftCo:

I told them [SoftCo] seven or eight years ago that they needed to start investing in the [specific] sector. We have a saying: 'do something or get off the pot'. Have you ever heard that? (Sergio: yeah). In essence what I told them, it's like 'You put your toe in [specific sector] but you really haven't committed'. They said 'We just hired! We got 10 people writing the [sector] system' [Sergio: Gosh]. I said 'Are you kidding me?' I said 'how *can* you? I mean, that's embarrassing!' I said 'The smallest software companies in the US...would have 50 or 60'. I mean, [DataSys] have got 50, 60 people. [GenteSys] have 100, 150. [BigVendor] have 150. You know 10 people is just nothing! They are up to, I don't know, 20, 25 now but still it is not what I would call for the size of the company, I mean they have the resources to be a global leader in [specific sector] if they want to be. It is just that they have just never made the commitment. And that is what you are saying?

In this situation there are two actors opposing each other through offering contrasting accounts of the qualities of a vendor. Sergio openly challenged Gartner's assessment of SoftCo and Bob was forced to defend their position. Whilst Sergio stated that SoftCo *was* improving, it was clear to Bob that they were not sufficiently committed to the particular sector. As he saw it, they were being opportunistic in this market ('they could be the global leader in [specific sector] if only they wanted to be'). This particular thread of conversation ended when Sergio was forced to fall into line with



Gartner's assessment. Despite all his previous efforts, Sergio has to concede the territory to Gartner and accept their assessment.

## CONCLUSIONS

Callon and colleagues (2002) suggest the economy can be understood in terms of the regimes of expertise, devices and practices that measure, classify, and draw boundaries around the properties of products and technologies. In this view 'comparison' is both central to the organization of the economy and the ranking of products like software, but also, at times, highly controversial. The suggestion in the work of Callon and others, and what I have attempted to build on here, is that to understand the 'economy of qualities' we must analyse how equivalences between vendors are made and resultant controversies dealt with – what I have described as the *labour of comparison*. This chapter has focused on the Magic Quadrant (MQ) which is a contested but highly influential object, my aim being to understand both the appeal and controversy it has generated. I have done this through treating the MQ not according to a representational idiom but a 'performative' one, deploying recent ideas developed by Callon (2007) and MacKenzie (2003) where they suggest that theories and models play a crucial role in the *doing* of the economy. Adapting this argument to the case of industry analysts, I asked: to what extent is the advice of industry analysts 'performative'?

Callon (2007) has described economic and financial theories as putting in motion a *socio-technical agencement*. Theories are successful (i.e., performative), he argues, when they create their corresponding socio-technical agencement (the ‘context’ or ‘world’ they point to). The chapter analyzed the MQ describing four particular moments. Firstly, in enacting this world, the industry analysts potentially reshaped how people made decisions whilst choosing between vendors. The device offered an alternative *comparative machinery* through putting previously incommensurable technologies on a scale. It defined the two dimensions of this scale and created the possibility of ordinal assessment and ranking of vendors. Secondly, I have described the actualization of this world through the construction of a *research process* whereby industry analysts could speak ‘authoritatively’ about the competence and performance of software vendors. The analysts have established an extensive ‘calculative network’ through which they could draw on the views and opinions of those implementing and using the technologies of the vendors under scrutiny. This knowledge has an unusual quality (being informal, contingent and potentially subjective). Through the activities of the analysts this ‘community knowledge’ is no longer the highly situated form of knowledge it once was but can be turned into a form of more robust *commodified* knowledge that could ‘travel the world’.

Thirdly, this particular socio-technical agencement has begun to constitute the marketplace in various ways. It has established a number of new realities

– or, to use the language from the start of the paper, it has become ‘successful’. Actors increasingly act according to the tool. Vendors, for instance, increasingly describe themselves according to this new comparative machinery, as well as being characterized in these terms by many of their customers. ‘Ability to execute’ and ‘completeness of vision’ have come to be treated as unproblematic (as well as ‘researchable’ and ‘assessable’) measures of vendor performance. Moreover, the device conditions the activities of not only of vendors but increasingly of users. I observed one IT manager attempt to provide evidence of a vendor’s improving performance (to ensure continued vendor investment in the technology he had adopted). Even though his intervention did not yield the outcome he intended, the episode demonstrates how the IT market is increasingly ‘framed’ and this actor ‘equipped’. This suggests people are increasingly able to see the effects of their actions in relation to these kinds of tools – and to act accordingly.

Finally, and to return to the place where this chapter began, all of this builds towards the argument that these tools are *not* arbitrary but contain *defensible* forms of knowledge (as could be seen by Bob’s strong rebuttal of Sergio’s attempt to influence them). This is not to say that the tools are viewed uncritically. As I have shown, the tool inhabits an interesting ‘grey space’. They are critiqued (mostly in the practitioner press) because amongst other things analysts are not always independent of those they assess. In Callon’s terms, these criticisms might be seen as ‘competing’ socio-technical

agencements attempting to problematize the world set out by the MQ. Imposing new worlds, argues Callon, always causes alternative ones to ‘strike back’.

In summary, these kinds of devices generate comparisons that do not exist elsewhere: they bring actors together in the same space through producing and standardizing relationships between them. In this respect, the MQ might therefore be described as a *technology of comparison*. Moreover, in writing this chapter I hope to give impetus to social scientists in understanding how highly simple devices like these have virtues in ‘qualifying’ and ‘performing’ marketplaces. The labour of comparison is not a narrow, academic affair; there has been an enormous growth in dedicated experts and professionals, organizations and bodies, and various socio-technical devices all of which observe, analyse, and produce equivalences in some form (Barry and Slater, 2005). Industry analysts are one such body of experts who are not simply describing markets, they are not solely reporting on the qualities of vendors, they are creating those comparisons.

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## NOTES

- 1 It is widely acknowledged that organizations today find it difficult to critically assess and evaluate large information technology (IT) solutions prior to purchase (Pollock and Williams, 2007, 2009). The difficulties adopters face is that they are assessing not just technical properties but also intangible issues regarding the future performance of a technology vendor (will it survive?), its behaviour (will it continue to invest in the particular market in coming years?), and particularly, the differences between technologies (Callon et al., 2002). At the same time, however, the institutional

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frameworks for promoting and assessing complex IT solutions are becoming better established as can be seen by analysing the changes in the processes of assessment of technologies in the course of procurement. In the 1980s, for instance, consultancy organizations were beginning to collate information about supplier offerings and the new kinds of IT available, followed in the 1990s by the growth in popularity of specialist industry analysts and IT research firms (the Gartner Group, Forrester Research, the Meta Group, the Giga Group, International Data Corporation and so on) which gathered information on competing vendors in the IT marketplace (Firth and Swanson, 2005). Founded by Gideon Gartner in 1979, the Gartner Group has its headquarters in Stamford, Connecticut and offices in over 80 places around the world. It has 4,300 associates of which 1,400 are described as ‘expert analysts’ and ‘consultants’.

2 The term (derived from the work of Deleuze and Guattari) is used to depict a heterogeneous collection of material and textual elements that act on and modify each other. As Callon notes there is nothing ‘outside’ a socio-technical agencement – theories or descriptions of the agencement, for instance, are not ‘external’ but part of the configuration, acting and bringing it into being. Callon argues that a theory is successful (performative) when it can create its corresponding socio-technical agencement. One other important aspect is the assertion that no one element (human or nonhuman) is assumed a priori to be more important than any other; they all, methodologically at least, have equal status, and in this sense they all can act. It is because of the implied symmetry here that Callon can argue that theories also set worlds in motion.

3 For instance, in the earlier decision-making frame, vendors were assessed on measures that were effective in detailing how a potential system related to the needs and shape of a specific user (i.e., they were ‘accurate’) but provided little purchase on how vendors compared in catering for such requirements (i.e., they were not ordinal measures). Theodore Porter has argued that there are strong incentives in both the sciences and the economy for precise and standardizable measures rather than highly ‘accurate’ ones. He writes ‘[f]or most purposes, accuracy is meaningless if the same operations and measurements cannot be performed at other sites’ (1995, p. 29).



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4 This resonates with Ian Hacking's (1999) observation of how new classification schemes rarely simply stabilize settings but encourage newly sorted actors to act in different ways (often either conforming to, or rebelling from, the newly introduced classification).

5 For MacKenzie (2009), an 'equipment' is the physical or cognitive things (like theories, models, technology and so on) that give actors within markets new abilities but also, importantly, modifies the nature and activity of these actors.